

Abstract Submitted
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Spin Coated Arsenic Selenide Thin Films: Preparation and Characterization.¹ MARIA WHITE², CAITY THOMAS³, JOSHUA ALLEN⁴, JONATHAN BUNTON⁵, ANDRIY KOVALSKIY, Austin Peay State University — Chalcogenide glasses exhibit unique physical properties that make them favorable in many optical applications. High quality arsenic selenide chalcogenide glass thin films can be made by spin coating. This method is based on chemical dissolution of bulk arsenic selenide glasses in ethylenediamine. Such homogenous films have structure very similar to the bulk counterpart. As a result, it is expected that they should be photo-stable at the irradiation by visible light. Technological features of spin coating method for the arsenic selenide were studied. It was found that chemical environment plays an essential role in the process of preparation of the films of high optical quality. The best films have been obtained in inert gas environment with minimum contact with oxygen. Raman spectroscopy was used for structural characterization of the prepared samples. Photo-induced optical effects were studied by irradiating the thin chalcogenide film with light of different energies and intensities.

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